**Updated**
**January 7, 2026**

## Personal information


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|---|---|
| Name / Surname | **Filippo Zoffoli** |
| Personal Email | filippo.zoffoli6@unibo.it |


## Research Summary

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| Research focus | Control, kinematic analysis, and calibration of Cable-Driven Parallel Robots. |
| Keywords | Cable-driven robotics, hybrid control, estimation and self-calibration, robot kinematic design. |
| Highlights | 4 peer-reviewed publications (1 in high-impact journal *Mechanism and Machine Theory*), participation in IFIT conference. |

## Didactic and Scientific Activities

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|---|---|
| Dates | 19/02/2024 - 11/06/2024 and 17/02/2025 - 13/06/2025 |
| Name and Address of employer | University of Bologna, Via Zamboni 33 |
| Type of business or sector | University |
| Type of employment | Academic tutor of the Laboratory of Robotics and Mechatronics |
| Main activities and responsibilities | Teaching support activities, production and maintenance of teaching materials. |

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| Dates | 04/06/2025 – 04/09/2025 |
| Name and Address of employer | University of Minnesota, Department of Aerospace Engineering and Mechanics, Minneapolis, MN, USA, 107 Akerman Hall 110 Union Street SE Minneapolis, MN 55455 |
| Type of business or sector | University – Research Internship |
| Type of employment | Visiting PhD Researcher |
| Main activities and responsibilities | Research on novel self-calibration methods for cable-driven parallel robots, with a focus on online initial-pose self-calibration. |

## Education and training

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| Dates | 01/03/2023 - in progress |
| Title of qualification awarded | Ph.D. in Mechanics and Advanced Engineering Sciences |
| Principal subjects/Occupational skills covered | Reconfigurable robotic systems for automated large-scale applications |
| Name and type of organization providing education and training | University of Bologna - Department of Industrial Engineering |
| Level in national or international classification | 90 |

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|---|---|
| Dates | 19/09/2020 - 10/10/2022 |
| Title of qualification awarded | Master Degree in Mechanical Engineering |
| Principal subjects/Occupational skills covered | Thesis title: Feedback Control of Underactuated Cable-Driven Parallel Robots, final grade: 110/110L |
| Name and type of organization providing education and training | University of Bologna |

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|---|---|
| Level in national or international classification | 74 |
| Dates | 19/09/2017 - 07/10/2020 |
| Title of qualification awarded | Bachelor's Degree in Mechanical Engineering |
| Principal subjects/Occupational skills covered | Thesis title: Design of a portable coffee press, final grade: 106/110 |
| Name and type of organization providing education and training | University of Bologna |
| Level in national or international classification | 71 |

## Personal skills and competences

Mother tongue **Italian**

Other language(s)

*Self-assessment* / *European level*

| | Understanding | | Speaking | | Writing |
|---|---|---|---|---|---|
| | Listening | Reading | Spoken interaction | Spoken production | |
| **English** | C1 | C1 | C1 | C1 | C1 |
| **Spanish** | A1 | A1 | A1 | A1 | A1 |

(*) *Common European Framework of Reference* (CEF) level

Communication skills: Good ability to draw up reports; excellent skills in summarizing and presenting work derived from team projects during university and Ph.D. studies. Good ability in public speaking.

Organisational and managerial skills: Strong planning and goal-setting abilities. Effective team collaboration, including interdisciplinary projects with electronics and computer science domains.

Computer skills and competences: Specialized in Office Suite, Specialized in CAD software. Known programming languages: MATLAB (High), Python (Medium), C (Medium), C++ (Medium).

## List of publications


[1] Ida' E., **Zoffoli F.**, Carricato M. (2024). Hybrid-Control-Based Workspace Analysis of Overconstrained Cable-Driven Parallel Robots. In: Lenarčič, J., Husty, M. (eds) Advances in Robot Kinematics 2024. ARK 2024. Springer Proceedings in Advanced Robotics, pp. 324-331, doi:10.1007/978-3-031-64057-5_37

[2] **Zoffoli F.**, Coccia V., Ida' E., Carricato M. (2024). A rapid initial-pose self-calibration method for underactuated cable-driven parallel robots, In: Quaglia G., Boschetti G., Carbone G. (eds), Advances in Italian Mechanism Science, IFToMM Italy 2024, Mechanisms and Machine Science, pp. 366–374, doi:10.1007/978-3-031-64553-2_43

[3] **Zoffoli F.**, Ida' E., Carricato M. (2025), Design and control optimization for hybrid-controlled overconstrained cable-driven parallel robots, Mechanism and Machine Theory, 209, pp. 1-17, doi:10.1016/j.mechmachtheory.2025.105998

[4] **Zoffoli F.**, Ida' E., Carricato M. (2025), Initial-pose self-calibration for deployable overconstrained Cable-Driven Parallel Robots, presented in the 34th International Conference on Robotics in Alpe-Danube Region, RAAD2025, 18-20 June, Belgrado, Serbia